

Econ 131
Spring 2017
Emmanuel Saez

Problem Set 4

DUE DATE: April 26

Student Name:

Student ID:

GSI Name:

- **You must submit your solutions using this template.**
- **Although you may work in groups**, each student must submit individual sets of solutions. You must note the names other students that you worked with. Write their names here:

1. Essay

The new republican administration and congress have failed to repeal and replace Obamacare so far. This article discusses the threats to the functioning of Obamacare and what the states can do to overcome them if the federal government does not.

Article: 4 ways states can prevent the Affordable Care Act from “exploding”

If the Trump administration stops enforcing the individual mandate fine, how will this affect Obamacare? If the Trump administration stops enforcing the mandate on employers (with more than 50 employees) to provide health insurance, how will this affect Obamacare?

Suppose some states (such as California) choose to shore up Obamacare on their own as described in the article and others (such as Texas) do not. Would this be a good thing in light of the Tiebout theory of fiscal federalism?

2. True/False Statements

Determine whether each statement is true, false, or uncertain and explain why. Answers with no explanation will receive no points.

- (a) The Tiebout Theorem holds for pure public goods.

FALSE. It applies only to non-excludable but rival goods. For pure public goods, the efficient outcome requires everyone living in one large city (e.g. like missile defense for a whole country). See lecture notes.

- (b) It is possible that graduating from UC Berkeley increases your adult earnings but that the things you learn at Berkeley (in class and from your peers) do not.

TRUE. This is education as a screening device. It is possible that Berkeley is good at identifying high intrinsic (i.e. not-affected-by-Berkeley) talent and/or that only people with high intrinsic talent can get good grades and graduate. Thus graduating from Berkeley allows one to signal to the world ones high intrinsic talent, even if the things that one learns are actually useless. [However this is not likely true! See Clark and Martorell (2014) for high-school learning being key, not merely graduation.]

- (c) Charter schools improve student outcomes.

UNCERTAIN. Angrist, Pathak, Walters AEJ13 carry out a comprehensive analysis of charter schools effects in Massachusetts. They find that urban charter schools boost achievement well beyond that of urban public school students, while non-urban charters reduce achievement from a higher baseline. Charter schools can have a positive or negative impact depending on what they do. No excuses approach to education seems most effective: focus on instruction time, comporment, selective teacher hiring, and focus on traditional math and reading skills.

- (d) Suppose a local community is deciding how much to spend on private goods and local police. This community then receives a matching grant from a higher level government to incentivize spending on local police. Assuming well-shaped utility functions, police spending could increase or decrease depending on income effect and substitution effect.

FALSE. Police spending increases unambiguously because income and substitution effects work in the same direction.

- (e) If moral hazard effects are large, then private insurance is preferable to social insurance.

FALSE. Moral hazard effects affect private and social insurance equally. Because of such effects, it is not desirable to provide full insurance and that's true for both private and social insurance.

- (f) Responsible individuals would save optimally for retirement even absent any government interventions. Hence, no government retirement program is needed.

TRUE if everybody was responsible. FALSE if some people do not/cannot save responsibly. In that case, a government forced savings retirement program helps those not responsible without hurting those responsible [who can offset the forced savings by saving less].

3. Workers Compensation

Consider an economy of identical individuals who earn a wage w while working and nothing when they don't. With probability p , the individuals get injured and cannot work. When injured, the individuals get a worker's compensation benefit of b from the government. When working, individuals pay a tax of tw to finance the workers compensation system. Assume that the agents have no other source of consumption in either state. Let $u(c) = \ln(c)$ denote the individual's utility from consuming c in a given state.

1. Write the government's budget constraint for an actuarially fair insurance program.

The government must have a balanced budget - expected payments for worker's comp should equal expected tax revenue. $(1 - p)t * w = pb$.

2. Write the individual's expected utility as a function of the benefit b .

Expected utility is the weighted average of the utility in each state - injured/not injured.
 $EU = p \ln(b) + (1 - p) \ln(w * (1 - t))$

Also, can solve for t in terms of b from the government budget constant and plug this expression for t in to get the expression for expected utility to get EU in terms of p , w , and b only.

Now suppose that p is a function of b . Assume that $\frac{dp}{db} > 0$ and $p(0) = \frac{1}{4}$.

Explain the rationale for assuming that $\frac{dp}{db} > 0$.

3. Show analytically that the optimal benefit b^* is strictly greater than 0. Explain intuitively why neither a benefit of zero nor perfect insurance (equal consumption in both states) is optimal.

We assume p is increasing in b , because of moral hazard. The greater the benefits that can be collected from workers' compensation the less likely employees are to be careful not to get injured and the more likely to fake an injury.

Since $\ln(0) = -\infty$, and the worker will have 0 consumption in the injured state if $b = 0$, it cannot be optimal to have $b = 0$. Intuitively, full insurance is not optimal because individuals would have the same income working or not, so no one would choose to work.

Prof. Saez is evaluating the efficiency of the workers compensation system. He observes that injured workers' consumption rose by \$50 from 1996 to 1998, while the California government increased benefits by \$100 in 1997.

4. What does the model (from part 2) predict will happen to consumption of those who are injured when benefits are raised by \$100?

The model above (part a) predicts that a \$100 increase in benefits will result in a \$100 increase in the consumption of injured since their consumption is $b_{new} = b_{orig} + 100$.

5. State two features of the real world that this simple model fails to incorporate which could cause its predictions to differ from the true effect.

This model fails to consider that individuals may have other consumption smoothing options available - such as spousal income and savings - that will be crowded out when benefits increase.